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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/812,890 | 03/31/2004 | Robert Japp | EI-2-04-003 | 5018 |

7590

11/04/2005

Lawrence R. Fraley, IP Law Counsel
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Endicott, NY 13760

| EXAMINER |
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NGUYEN, THINH T

| ART UNIT | PAPER NUMBER |
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2818

DATE MAILED: 11/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|-------------------------------|-----------------------------|--|
| Office Action Summary | Application No. 10/812,890 | Applicant(s) JAPP ET AL. | |
| | Examiner Thinh T. Nguyen | Art Unit 2818 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 19 August 2005.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-10 is/are pending in the application.

 4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-10 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:

 1. ☐ Certified copies of the priority documents have been received.

 2. ☐ Certified copies of the priority documents have been received in Application No. _____.

 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED OFFICE ACTION

1. Applicant election of Claim 1-10 for prosecution without traverse in the communication with the Office on 8/19/2005 is acknowledged.

Specification

2. The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant cooperation is requested in correcting any errors of which the applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(a/b/e) that form the basis for the rejections under this section made in this office action.

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects

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for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 1,3,5,6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Bindra et al .
(U.S. Patent 5,229,550) provided in Applicant's IDS.

REGARDING CLAIM 1

Bindra (fig 1A,the title, the abstract, column 2 line 13-25) discloses a circuitized substrate comprising: a first layer (fig 1 A, layer 4) comprised of a dielectric material including a resin material including a predetermined quantity of particles therein and not including continuous fibers, semi-continuous fibers or the like as part thereof; and at least one circuitized layer (layer 1 ,circuit 5 fig 1A) positioned on the first layer.

Noted that Bindra uses PTFE and CTFE organic resin compound with quartz or silicon particle filler and therefore, the dielectric does not contain fibers.

REGARDING CLAIM 3

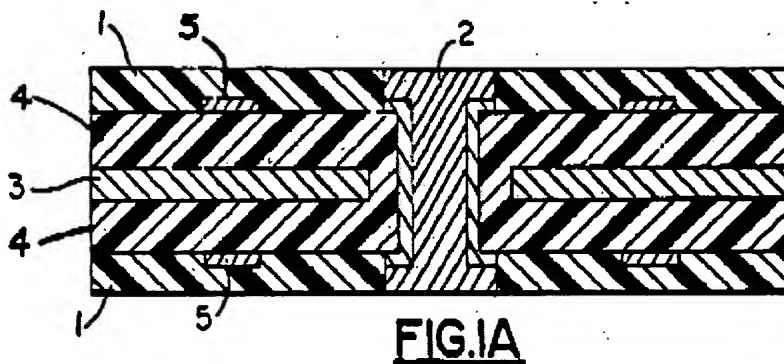
Bindra (column 2 line 19) discloses the use of quartz particles and quartz is silica.

REGARDING CLAIM 5

Bindra (column 4 lines 15-25) discloses a circuitized layer (fig 1A layer 3) made of copper.

REGARDING CLAIM 6

Bindra (fig 1A, layer 1, layer 4, layer 3) discloses a circuitized substrate further including a second circuitized layer positioned on the first layer on a side opposite the at least one circuitized layer.



REGARDING CLAIM 7

Bindra (fig 1A, column 3 lines 66-68 ,column 4 lines 1-3) discloses a circuitized substrate that includes a plurality of conductive thru-holes (Bindra word for the conductive through hole is via) in the first layer, selected ones of the conductive thru holes electrically coupling selected parts of the at least one circuitized layer to selected parts of the second circuitized layer.

5. claim 9 is rejected under 35 U.S.C. 102(e) as being anticipated by Mao et al. (US patent Application Publication US 2004/0256731 A1.

REGARDING CLAIM 9

Mao discloses (in fig 1 in paragraph [0013]) a circuitized substrate comprising: a first layer comprised of a dielectric material including a resin material including a predetermined quantity of particles therein and not including continuous fibers, semi-continuous fibers or the like as part thereof; and at least one circuitized layer positioned on the first layer this circuitized substrate further including second and third dielectric layers positioned on the at least one

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circuitized layer and the second circuitized layer, respectively, and third and fourth circuitized layers formed on the second and third dielectric layer, respectively.

Noted that Mao discloses a circuitized substrate that has 3 dielectric layers with layers 124, 111 and 122 correspond to the first, second, and third dielectric layers and layers 134, 114, 112, and 132 correspond to the first, second, third, and fourth circuitized layers.

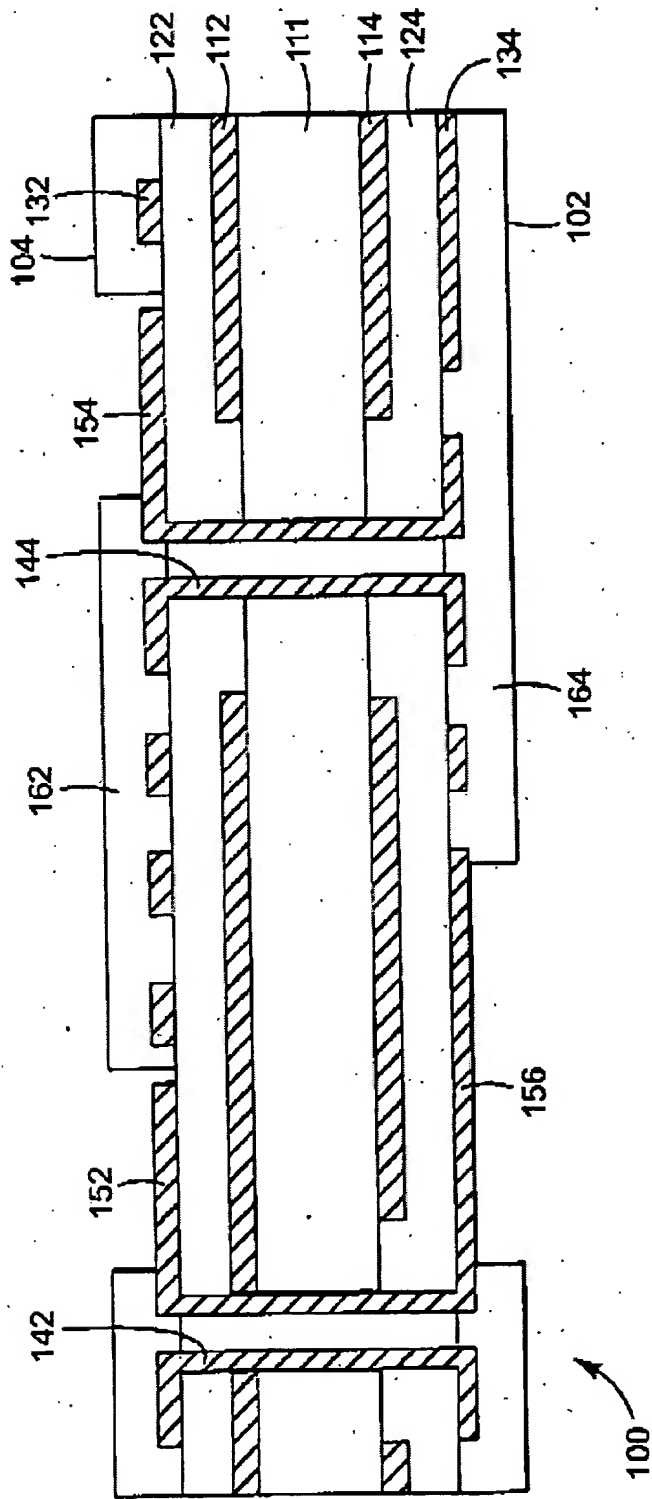


FIG. 1

Claim Rejections - 35 USC § 103

6. The following is a quotation of U.S.C. 103(a) which form the basis for all obviousness rejections set forth in this office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 2,4, 8, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bindra et al (US patent 5,229,550) in view of further remark.

REGARDING CLAIM 2,4,10

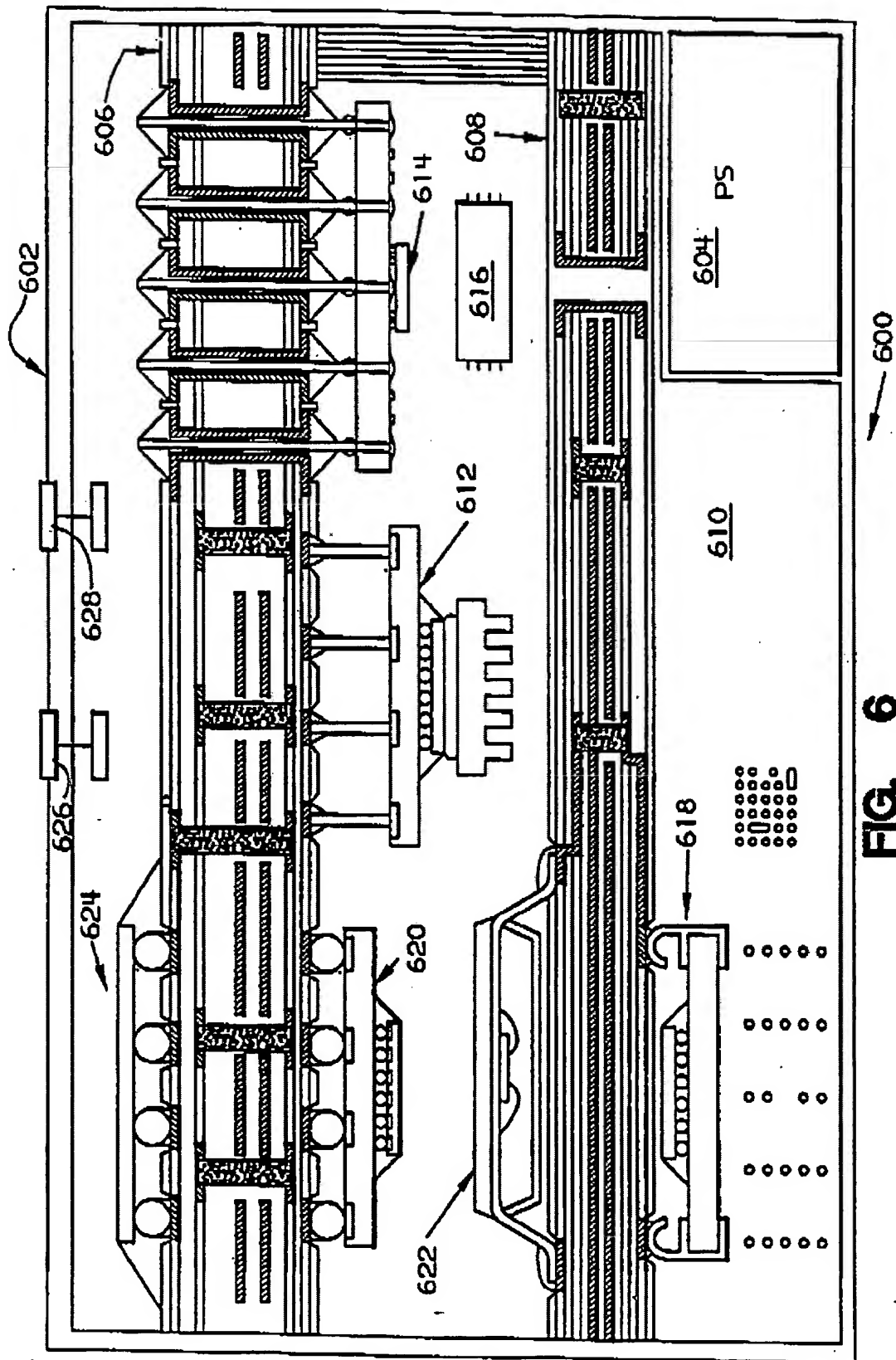
Bindra (fig 1A) discloses all the invention except for the relative size of the through holes in respect with the thickness of the substrate, the size of the filler particles and the percent of the content of the particles filler for the substrate. These limitations, however, are considered obvious since it has been held that when the general conditions of a claim is disclosed in the prior art discovering the optimum value or workable range is within the ordinary routine skill of an ordinary artisan in the art.

A person skilled in the art at the time the invention was made would be able to derive from the teachings by Bindra and his own routine design skill and come up with the inventions of claim 2,4,10 for the purpose of improving the device invented by Bindra.

REGARDING CLAIM 8

Bindra (fig 1A) discloses all the invention except is silent about putting on the circuitized substrate a chip carrier. This limitation, however, is considered obvious since the use of chip carrier on a circuitized substrate is old and well known in the art as evidence by the disclosure by Bhatt et al. (US patent 5,822,856) fig 6, chip carriers 612,614,620.

A person skilled in the art at the time the invention was made would be fully capable of using the teachings by Bindra and his own ordinary design skill and come up with the invention of claims 8 without any special instruction.



8. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and the page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

9. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the day of this letter. Failure to respond within the period for response will cause the application to be abandoned (see M.P.E.P. 710.02(b)).

CONCLUSION

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thinh T Nguyen whose telephone number is 571-272-1790.

The examiner can normally be reached on Monday-Friday 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached at 571-272-1787.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

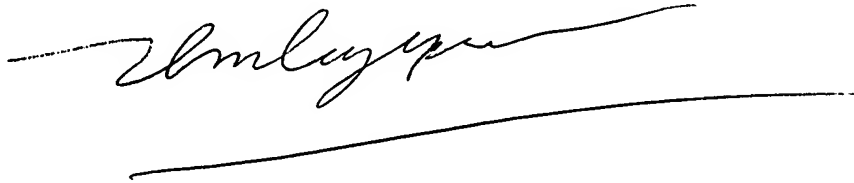
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval [PAIR] system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thinh T. Nguyen

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A handwritten signature in black ink, appearing to read 'Thinh T. Nguyen', is written over a horizontal line. The signature is fluid and cursive, with a long horizontal stroke extending to the right.